



Chapter 5: Project and Policy Recommendations

The US 40 Corridor Study results were used to develop project lists and policy recommendations. This chapter focuses on the project development process and how the recommended construction project list and plan list were developed and prioritized. This chapter also includes policy recommendations, with a special focus on access-management agreement types and benefits.

5.1 Construction Project List and Plans List: Identification Methodology

Projects were identified through a variety of methods. The planning process began with interviews of project stakeholders; these interviews helped identify projects that would directly address existing and future US 40 corridor issues. Chapter 4, Public Involvement, describes the two rounds of stakeholder workshops that were held at key decision points. Oil and gas industry representatives, who represent a major stakeholder group in the Uintah Basin, were given a separate opportunity to participate in the process through a series of one-on-one interviews.

To help define projects that would improve the long-term uses and development of the corridor, the team conducted technical analyses of accident data, existing and future levels of service, traffic forecasts, and population and employment forecasts and a qualitative assessment of the oil and gas industry in the Uintah Basin. The team reviewed the physical condition of the corridor by looking at information on roadway geometry, pavement condition, average right-of-way width, shoulder width, and structures.

The general public provided input on the draft project lists during public open houses (see Chapter 4 for a description of the public open houses). Although the stakeholders often focused on regional issues, the public provided valuable information about specific issues at local intersections or pointed out local roadway geometry issues that needed to be addressed in the planning process.

The Ute Tribe was engaged at two tribal meetings during the planning process, as described in Chapter 4. UDOT also sponsored a special agency workshop to present information to and gather comments from agency representatives.

5.2 Project List

Information gained through stakeholder involvement and public input and the results of technical analyses were used to create an initial list of projects. This list was then filtered by the project team to ensure that the recommendations were consistent with UDOT's vision, goals, and objectives for the corridor as listed in Chapter 1, Introduction. As the list evolved, some separately identified projects were combined where it made sense to do so (for example, projects that involved the same stretch of highway).

Once the large "master list" was complete, it was then split into two lists by type of project: construction projects and management plans (see Section 5.2.1, Project Prioritization). The management plans list was developed because UDOT realized that future overall management of the corridor would require partnering and planning that is not appropriate for more traditional construction projects, and some projects cannot be fully developed without additional study and planning.

Table 5.2-1 below lists the construction projects, the overall ranking of each project, the segment where the project occurs, the recommended timeframe for project construction, and some of the findings that support each project's inclusion in the list. Table 5.2-2 on page 5-15 outlines the plans that will support future management of the corridor. Appendix E, Recommended Projects by Segment, includes a reference list of the projects by segment and a map showing segments, mileposts, and major intersections.

**Table 5.2-1. Recommended Construction Projects for the US 40 Study Corridor**

| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|---|----------------------|------|-----------------------|--|
| A1 | Add eastbound and westbound passing lanes from the “Twists” to Vernal (MP 134 to MP 141.2) to create a four-lane section along entire segment. | 6 | 1 | ST | <p>The area around the “Twists” was identified as one of the main areas of concern during public outreach because of unsafe passing and congestion. Numerous accidents along this stretch of road. Topography (grade) contributes to problems in this area, as does heavy congestion from Ballard to Vernal.</p> <p>Public comments noted that the passing lane should be extended from MP 139 to MP 141 (the road narrows at MP 140).</p> <p>2005 AM level of service (LOS) C, PM LOS D.</p> <p>2035 AM LOS C, PM LOS D.</p> <p>UDOT completed some work (roadway reconstruction with widening) from the “Twists” (~MP 134) to MP 136 in 2007.</p> <p>FEMA-designated floodplain on Twelvemile Wash between MP 134–MP 138. Another stream crossing at about MP 139.3.</p> <p>Natural resource consideration: potential eagle habitat at about MP 137.</p> |
| B1 | At intersection of SR 88 and US 40 (~MP 130.5), add acceleration/deceleration lanes and westbound hill-climbing lane. Also, lengthen turn lanes and make intersection concrete. | 6 | 2 | ST | <p>Intersection has heavy truck traffic from SR 88 entering US 40. Trucks pull out in front of traffic heading westbound up a steep grade, which slows the mainline traffic. Numerous accidents west of the intersection. Road damage from heavy trucks.</p> <p>Improvements to this intersection are included in the State’s special highway needs fund list that was released in June 2007.</p> <p>FEMA-designated floodplain on Sand Wash and Halfway Hollow Creek at about MP 130–MP 131.</p> <p>Natural resource consideration: prairie dog towns to the east of intersection.</p> |
| C1 | Construct full-service interchange at intersection of SR 88 and US 40 (~MP 130.5). | 6 | 3 | MT | <p>Safety is driving the need for this improvement. This is a very busy intersection with traffic of varying speeds accessing it regularly throughout the day. The volumes that are expected at this intersection as traffic related to the oil and gas industry increases will require this improvement.</p> <p>FEMA-designated floodplain on Sand Wash and Halfway Hollow Creek at about MP 130–MP 131.</p> <p>Natural resource consideration: prairie dog towns to the east of intersection.</p> |


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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|---|----------------------|------|-----------------------|---|
| D1 | Widen highway to four lanes along entire segment between Vernal and Roosevelt. | 6 | 4 | ST | Safety improvement. The presence of heavy truck traffic related to the oil and gas industry creates unsafe variations in speed. Allowing passing along the entire stretch will improve safety. Heavy congestion from Ballard to Vernal. |
| E1 | Improve/relocate intersection of SR 87 and US 40 in Duchesne (MP 86.5); make intersection concrete. | 3 | 5 | ST | Problems with intersection geometrics. Turn too tight for large trucks (trucks cannot stay in appropriate lane). Road damage from heavy trucks. |
| F1 | Improve/relocate intersection of US 40 and US 191 in Vernal (~MP 144.35). | 7 | 6 | ST | Problems with intersection geometrics. Turn too tight for large trucks (trucks cannot stay in appropriate lane). 2005 and 2035 LOS F during PM peak in northbound direction. |
| G1 | Construct three-lane section with center turn lane east of Ballard at MP 115.2 to MP 116.62. | 5 | 7 | ST | The 2005 level of service in this area is LOS E due to heavy left-turning volumes, which results in congestion through the industrial area. Establishing a center turn lane will improve this deficiency. UDOT completed a project that added a center turn lane between about MP 115.4 and MP 116.4 in 2007. |
| H1 | Add 1 mile or more of new eastbound passing lane between MP 116.62 and ~MP 118.79. | 5 | 8 | ST | Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion. Noted by UDOT maintenance personnel. 2005 MP 117–MP 118.79 AM and PM LOS C. 2035 MP 117–MP 118.79 AM and PM LOS D. STIP includes funding for widening to three lanes. Section 4(f)/6(f) resource at about MP 116; probably avoidable. Stream crossings at MP 117.7 and MP 118.8. Natural resource considerations: prairie dog towns at about MP 116 and MP 119; wooded riparian habitat at Montes Creek (about MP 119). |
| I1 | Address sight distance problems and intersection geometrics at 2500 West on the southwest edge of Vernal (~MP 141.2). | 6 | 9 | ST | Safety and congestion issues. Chokepoint due to narrowing of lanes and intersection geometrics. Recent/ongoing development is bringing more traffic to this area. This area has a severe sight distance problem when traffic turns eastbound onto US 40. A hill crest limits sight distance for traffic traveling at 55 mph. Intersection could be moved southeast. |

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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|--|----------------------|------|-----------------------|--|
| J1 | Widen highway from 500 East to L&L corner at intersection with SR 121 to four lanes (~MP 114.4 to MP 114.6). Change intersection geometrics to improve level of service. | 5 | 10 | MT | Safety and congestion concerns associated with roadway width (westbound lanes narrow from two to one; City of Roosevelt comment). Causes traffic to back up at signal. Confusing directional signage (City of Roosevelt comment). Turn radius too tight for trucks at corner. UDOT maintenance personnel noted that the bridge at MP 114.6 would also need to be widened. The 2035 level of service at the intersection is forecasted to be LOS F (2005 is LOS C). |
| K1 | Add turn and acceleration lanes for both right- and left-hand turns at Pleasant Valley Road intersection (~ MP 103.6); make intersection concrete. | 4 | 11 | ST | Safety issue; current intersection does not provide acceleration opportunities or protection for vehicles turning onto US 40 from Pleasant Valley Road. Comments noted that trucks from oil sites entering and exiting US 40 cause delay (no acceleration or deceleration lanes). Road damage from heavy trucks. |
| L1 | Convert intersection of US 40 and Pleasant Valley Road to an interchange (~MP 103.6). | 4 | 12 | LT | This intersection currently serves oil fields to the south, and UDOT expects that oil-related traffic will continue to grow. |
| M1 | Install signal at intersection of SR 45 (Bonanza Highway) and US 40 in Naples (~MP 148.3). | 7 | 13 | ST | Design and intersection geometry issues. Identified as a very important improvement by Uintah County and the City of Naples. Much congestion due to high volumes of truck traffic turning from SR 45 onto US 40. |
| N1 | Widen highway to four lanes along entire segment from Roosevelt to Duchesne. | 4 | 14 | MT | Safety improvement. The presence of heavy truck traffic related to the oil and gas industry creates an unsafe variation in speed. Allowing passing along four lanes will improve safety. Congestion from Roosevelt to Duchesne. The level of service in 2035 is expected to be LOS D, and the 2005 level of service is expected to be mostly LOS C and LOS D. |
| O1 | Add/extend eastbound passing lane from MP 30.44 to MP 31.28 (gap in existing climbing lane). | 1 | 15 | MT | Provide continuous climbing lane for eastbound traffic; eliminate uphill merge. 2005 AM and PM LOS A. 2035 AM LOS D, PM LOS C. UDOT personnel and Wasatch County note issues with wildlife strikes in this area (which indicates that the canyon might concentrate migration) and with livestock in the fall. Might be able to address fencing/wildlife crossings as part of widening. |


Table 5.2-1. Recommended Construction Projects for the US 40 Study Corridor

| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|---|----------------------|------|-----------------------|--|
| P1 | Convert intersection of US 40 and Bridgeland turnoff (Antelope Canyon Road) to an interchange (~MP 96.9). | 4 | 16 | LT | <p>County road approach is too narrow. Conflicts between high-speed traffic on US 40 and vehicles (especially trucks) turning onto or off of US 40. Need for acceleration and deceleration lanes.</p> <p>Uintah County representatives noted that wetlands between MP 96 and MP 105 could be affected by projects along this stretch.</p> <p>Some improvements to area completed in 2007.</p> |
| Q1 | Add 2 miles of new eastbound passing lane between MP 122 and MP 134. | 6 | 17 | ST | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion. UDOT personnel noted a need for turn lanes and wider shoulders from MP 122.5 to MP 124.44. Issues with merging traffic from Twelvemile Road at about MP 134 (dangerous intersection). Road damage at MP 134. Heavy congestion from Ballard to Vernal.</p> <p>2005 and 2035 AM LOS C, PM LOS D.</p> <p>UDOT maintenance personnel noted that there is a need for an acceleration/deceleration lane at MP 133.2 (access to disposal plant) and a protected left turn onto Twelvemile Road at MP 134. Comments were repeated by Uintah County representatives.</p> <p>FEMA-designated floodplain on Uinta River at about MP 122. Other stream crossings at multiple points along this stretch (eight others total).</p> <p>Natural resource considerations: several prairie dog towns along this stretch; potential eagle habitat at about MP 129.</p> |
| R1 | Add 2 miles of new westbound passing lane between MP 134 and MP 122. | 6 | 18 | ST | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion. Issues with merging traffic from Twelvemile Road at about MP 134 (dangerous intersection). Heavy congestion from Ballard to Vernal.</p> <p>2005 and 2035 AM LOS C, PM LOS D.</p> <p>FEMA-designated floodplain on Uinta River at about MP 122. Other stream crossings at multiple points along this stretch (eight others total).</p> <p>Natural resource considerations: several prairie dog towns along this stretch; potential eagle habitat at about MP 129.</p> |

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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|--|----------------------|------|-----------------------|--|
| S1 | Extend existing eastbound passing lane that ends at MP 49.2 to next passing lane that begins at MP 50.6. | 2 | 19 | MT | <p>Combine existing passing lanes to improve safety and prevent congestion.</p> <p>2005 AM LOS A, PM LOS B.</p> <p>2035 AM LOS C, PM LOS B.</p> <p>Proposed development at MP 50.7 will affect traffic patterns; issues with acceleration and deceleration.</p> <p>FEMA-designated floodplain at Soldier Creek near MP 50.3 (stream crossing at same point).</p> <p>Natural resource consideration: potential eagle feeding/roosting between about MP 40 and MP 50.</p> |
| T1 | Connect existing westbound passing lanes from MP 61.4 to MP 59.7. | 2 | 20 | MT | <p>UDOT maintenance personnel noted unsafe turning movements and merging conflicts at MP 61, especially in summer; project might be designed to address this issue. UDOT also noted insufficient passing lanes that add to delay, congestion, and unsafe passing. According to UDOT maintenance personnel, the existing turnout at MP 59 needs renovation/repair; this could also be addressed as part of passing lane project.</p> <p>2005 AM and PM LOS A.</p> <p>2035 AM and PM LOS C.</p> <p>Stream crossing at MP 60.</p> |
| U1 | Add 2 miles of new eastbound passing lane between MP 88 and MP 93. | 4 | 21 | ST | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion.</p> <p>2005 and 2035 AM and PM LOS D.</p> <p>STIP includes funding for passing lanes from Duchesne to Roosevelt in Duchesne County (this segment is in Duchesne County).</p> <p>Stream crossings at MP 89, MP 91.5, and MP 92.1.</p> <p>Major deer/elk crossing area between MP 88 and MP 93 (more activity in winter); might be able to work in crossing as part of widening.</p> |
| V1 | Add 2 miles of new eastbound passing lane between MP 93 and MP 103. | 4 | 21 | ST | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion.</p> <p>2005 and 2035 AM and PM LOS D.</p> <p>STIP includes funding for passing lanes from Duchesne to Roosevelt in Duchesne County (this segment is in Duchesne County).</p> <p>Multiple potential stream crossings along this stretch (11 total).</p> <p>Utah County noted that wetlands between MP 96 and MP 105 could be affected by projects along this stretch.</p> |


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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|--|----------------------|------|-----------------------|--|
| W1 | Add 1 mile of new westbound passing lane between MP 93 and MP 87. | 4 | 21 | ST | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion.</p> <p>2005 and 2035 AM and PM LOS D.</p> <p>STIP includes funding for passing lanes from Duchesne to Roosevelt in Duchesne County (this segment is in Duchesne County).</p> <p>Stream crossings at MP 87.3, MP 89, MP 91.5, and MP 92.1.</p> |
| X1 | Add 1 mile of new westbound passing lane between MP 98 and MP 93. | 4 | 21 | ST | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion.</p> <p>2005 and 2035 AM and PM LOS D.</p> <p>STIP includes funding for passing lanes from Duchesne to Roosevelt in Duchesne County (this segment is in Duchesne County).</p> <p>Stream crossings at multiple points along this segment (seven total).</p> <p>Uintah County noted that wetlands between MP 96 and MP 105 could be affected by projects along this stretch.</p> |
| Y1 | Add 1 mile of new westbound passing lane between MP 104 and MP 98. | 4 | 21 | ST | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion.</p> <p>2005 and 2035 AM and PM LOS D.</p> <p>STIP includes funding for passing lanes from Duchesne to Roosevelt in Duchesne County (this segment is in Duchesne County).</p> <p>Stream crossings at MP 98.4, MP 98.9, MP 99.2, and MP 100.3.</p> <p>Uintah County noted that wetlands between MP 96 and MP 105 could be affected by projects along this stretch.</p> |
| Z1 | Extend existing westbound passing lane that ends at MP 108.8 west to MP 107.6. | 4 | 21 | ST | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion.</p> <p>2005 AM LOS B, PM LOS C.</p> <p>2035 AM LOS C, PM LOS D.</p> <p>STIP includes funding for passing lanes from Duchesne to Roosevelt in Duchesne County (this segment is in Duchesne County).</p> <p>Planned commercial and industrial development at about MP 108.</p> <p>Stream crossing at MP 108.3.</p> |

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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|---|----------------------|------|-----------------------|---|
| A2 | Convert intersection of US 40 and SR 87 (Ioka Junction, north of Myton) to an interchange (~MP 109.6) and add a center two-way left-turn lane to the east between Basib Builders and Stanko Insulation. | 4 | 22 | LT | This location has numerous accidents and heavy truck traffic. UDOT made improvements to Ioka Junction intersection in the summer of 2007. Truck noise levels at intersection with SR 87 affect residents. |
| B2 | Extend existing westbound passing lane from MP 119.4 to ~MP 118 (Ballard city limit). | 6 | 23 | ST | Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion. Heavy congestion from Ballard to Vernal. 2005 AM and PM LOS C. 2035 AM and PM LOS D. FEMA-designated floodplain on Montes Creek at about MP 119. Natural resource considerations: prairie dog town at about MP 118; wooded riparian habitat on Montes Creek at MP 119. |
| C2 | Add 1 mile of new eastbound passing lane between MP 150 and MP 157. | 8 | 24 | MT | Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion. Identified as a problem area by Uintah County. The City of Vernal would like to see turn lanes constructed between Vernal/Naples and Jensen. UDOT maintenance personnel noted narrow shoulders. 2005 AM and PM LOS D. 2035 AM LOS C, PM LOS D. FEMA-designated floodplains on tributaries to Ashley Creek at about MP 151 and MP 154 and on Ashley Creek itself at MP 154. Another stream crossing at about MP 155.1. |
| D2 | Identify specific locations for and construct westbound passing lanes in Daniels Canyon between about MP 23–MP 21, MP 28–MP 26, and MP 32.6–MP 31. | 1 | 25 | MT | Additional downhill passing opportunities needed in the canyon to allow passenger vehicles to pass vehicles moving more slowly down steep grades (Duchesne County officials, Heber City stakeholder meeting). Issue with distance between creek and road at MP 27. UDOT personnel noted safety and capacity issues between MP 30.4 and MP 31.28; comment echoed by Wasatch County officials. Roadway resurfacing completed between MP 27 and MP 33 in 2007. FEMA-designated floodplain for Daniels Creek between/along portions at MP 21–MP 26. Stream crossings at MP 22, MP 27.5, MP 28, and MP 31.6; 4(f) resource at about MP 27.5. |


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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|---|----------------------|------|-----------------------|--|
| E2 | Add 1 mile of new westbound passing lane between MP 157 and MP 150. | 8 | 26 | MT | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion. Identified as a problem area by Uintah County. The City of Vernal would like to see turn lanes constructed between Vernal/Naples and Jensen.</p> <p>2005 AM and PM LOS D.</p> <p>2035 AM LOS C, PM LOS D.</p> <p>FEMA-designated floodplains on tributaries to Ashley Creek at about MP 151 and MP 154 and on Ashley Creek itself at MP 154. Another stream crossing at about MP 155.1.</p> |
| F2 | Extend existing eastbound passing lane from MP 59.4 to MP 61. | 2 | 27 | MT | <p>According to UDOT maintenance personnel, there is unsafe passing as a result of insufficient passing lanes. Short lanes also cause delays and congestion. Intersection conflicts at MP 59.7, MP 60.8, and MP 61.</p> <p>2005 AM and PM LOS A.</p> <p>2035 AM and PM LOS C.</p> <p>Stream crossing at MP 60.</p> <p>New residential development planned at about MP 61 (near Fruitland) will generate need for acceleration/deceleration lanes and turn lanes.</p> |
| G2 | Improve intersection of US 40 and Red Creek Road (near MP 65.4; improve sight distance; add acceleration and deceleration lanes; add left-turn lanes; add passing lanes over hill crests in both directions). | 2 | 28 | MT | <p>Merging conflicts; UDOT maintenance personnel noted that the road is "narrow and curving" and needs realignment. Duchesne County officials also noted that the Red Creek intersection is in need of improvement(s). Sight distance issues. Intersection is at a low point; US 40 travels uphill in both directions from the intersection.</p> |
| H2 | Replace/repair Red Creek Bridge (bridge D-595) at MP 65.4. | 2 | 29 | ST | <p>Bridge sufficiency is rated at 43.3, which places it in the "poor" category. Safety issue. UDOT maintenance personnel also identified this bridge as one that needs assessment.</p> |
| I2 | Add 2 miles of new westbound passing lane between MP 46 and MP 35. | 2 | 30 | MT | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion.</p> <p>2005 AM LOS C; MP 46–43 PM LOS A, MP 43–35.6 PM LOS C.</p> <p>2035 AM LOS C; MP 46–43 PM LOS B, MP 43–35.6 PM LOS C.</p> <p>Multiple potential stream crossings along this stretch (12 streams total).</p> <p>Natural resource consideration: potential eagle feeding/roosting between about MP 40 and MP 50.</p> |

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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|--|----------------------|------|-----------------------|--|
| J2 | Extend existing eastbound passing lane from MP 43.3 to MP 44. | 2 | 31 | MT | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion.</p> <p>2005 AM and PM LOS A.</p> <p>2035 AM LOS C, PM LOS B.</p> <p>Stream crossing at MP 43.7.</p> <p>Natural resource consideration: potential eagle feeding/roosting between about MP 40 and MP 50.</p> |
| K2 | Extend existing eastbound passing lane from MP 68 to MP 69.2. | 2 | 32 | MT | <p>According to UDOT maintenance personnel, there is unsafe passing as a result of insufficient passing lanes. Short lanes also cause delays and congestion. Intersection conflicts at MP 59.7, MP 60.8, and MP 61.</p> <p>2005 AM and PM LOS A.</p> <p>2035 AM and PM LOS C.</p> <p>Stream crossing at MP 60.</p> <p>New residential development planned at about MP 61 (near Fruitland) will generate need for acceleration and deceleration lanes and turn lanes.</p> |
| L2 | Stripe bicycle lanes in established communities corridor-wide. | Multiple segments | 33 | MT | Requested by City of Roosevelt representatives. |
| M2 | Add left- and right-turn lanes or center turn lane at key locations between Naples and the eastern project terminus. Suggested locations for turn lanes are at 3700 East 4000 South, 5500 East 5000 South, and 6800 East 6000 South. Suggested location for center turn lane (three lanes total) is from 7750 East 6000 South to SR 149. | 8 | 34 | ST/MT | <p>Safety issue. High left-turning volumes into residential areas, which results in congestion and potential safety issues through an area that has high travel speeds. Establishing left- and right-turn lanes and a center turn lane will improve safety by allowing vehicles to turn into and out of residential areas. The area from 7750 East 6000 South to SR 149 has numerous individual residential accesses with limited shoulders and no left-turn lanes for vehicles to pull out of traffic.</p> <p>Natural resource considerations: multiple potential stream crossings. Ashley Creek is listed as impaired under Section 303(d) of the Clean Water Act.</p> |
| N2 | Extend existing westbound passing lane from MP 61.5 to MP 60.5. | 2 | 35 | MT | <p>Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion.</p> <p>2005 AM and PM LOS A.</p> <p>2035 AM and PM LOS C.</p> <p>STIP includes \$4.5 million for passing lanes from Duchesne to Roosevelt in Duchesne County (this segment is in Duchesne County).</p> <p>Cemetery at about MP 62.</p> |


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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|---|----------------------|------|-----------------------|---|
| O2 | Extend existing westbound passing lane from MP 70.9 to MP 70.2. | 2 | 36 | MT | Unsafe passing as a result of insufficient passing lanes. Lane deficiencies also cause delays and congestion. 2005 AM and PM LOS A. 2035 AM and PM LOS C. |
| P2 | Add 1 mile of new eastbound passing lane between MP 82 and MP 84. | 2 | 37 | MT | 2005 AM and PM LOS A. 2035 AM LOS C, PM LOS B. STIP includes \$4.5 million for passing lanes from Duchesne to Roosevelt in Duchesne County (this segment is in Duchesne County). Stream crossings at MP 82, MP 82.7, MP 83.6, and MP 84. Planned parallel bicycle/pedestrian path between about MP 81.5 and MP 85.86. |
| Q2 | Extend existing eastbound passing lane from MP 51 to MP 51.4. | 2 | 38 | MT | Safety improvement. This is an extension of a lane over the crest of a hill. 2005 AM and PM LOS A. 2035 AM LOS C, PM LOS B. |
| R2 | Reconstruct intersections in Vernal and Naples to concrete, especially at signalized intersections. | 7 | 39 | ST | Truck traffic through city affects roadway surface (rutted roads), especially at required stops. Concrete intersections more durable, less surface maintenance. Noted by UDOT personnel as a problem. |
| S2 | Construct concrete intersections in Roosevelt and Ballard. | 5 | 40 | MT | Truck traffic through city affects roadway surface, especially at required stops. Concrete intersections more durable, less surface maintenance. UDOT maintenance personnel noted that the entire road surface needs to be rotomilled and repaved due to truck damage. |
| T2 | Construct stamped concrete crossing of Roosevelt bicycle path at US 40 and Lagoon Street (~MP 114.4). | 5 | 41 | ST | Bicycle/pedestrian route through town and off of US 40 is in the planning stages. This crossing would accommodate that route; requested by City. |
| U2 | Add eastbound right-/left-turn lane at Currant Creek Road (MP 58.2). | 2 | 42 | MT | Safety issue; current intersection does not provide for left- and right-turn lanes from US 40 to Currant Creek Road. Vehicles must slow in the travel lanes to access Currant Creek Road. |
| V2 | Construct necessary drainage improvements based on drainage plan developed with Uintah County government, governments of cities in Uintah County, and the Cities of Duchesne and Roosevelt. | Multiple segments | 43 | MT | Drainage in developed (more urban) areas often fails because the roadway is higher than the curb or because of modifications that have occurred over time (in Vernal/Naples, due to the loss/conversion of roadside ditches). No runoff control, which creates environmental concerns. Requested by Cities of Roosevelt and Duchesne. |

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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|----|--|----------------------|------|-----------------------|---|
| W2 | Upgrade intersection of 7500 West and US 40 in Fort Duchesne to an interchange (~MP 121.4). | 6 | 44 | | <p>Requested by tribal representatives. Tribal representatives note that there will be an increase in accidents once the signal is installed at this intersection.</p> <p>UDOT has noted that an uphill climbing lane will be needed after the signal is installed to accommodate trucks that must stop at the signal (this intersection serves oil fields to the south).</p> <p>Potential conflicts with existing convenience store.</p> <p>Natural resource considerations: Uinta River crossing at MP 121.7 (impaired water body). Intermittent streams at MP 121.1. Cemetery just south of US 40 about 0.5 mile west of the intersection.</p> |
| X2 | Install variable-message signs at entry to Daniels Canyon (~MP 23.3 to MP 35) to inform travelers of roadway conditions. | 1 | 45 | MT | <p>Snow and ice on the road in the canyon can be a problem during winter. Installing variable-message signs will give drivers information on road conditions through the canyon and beyond.</p> |
| Y2 | Install cameras to allow Internet review of roadway conditions. | Multiple segments | 46 | MT | <p>Cameras that provide regular updates on the UDOT Web site can provide information for travelers about road conditions, which can affect their decisions about routes to take, as well as whether to postpone a trip. This can improve safety.</p> |
| Z2 | Install signs corridor-wide indicating passing lanes, wildlife crossing areas, and snowmobile and all-terrain-vehicle crossings. | Multiple segments | 47 | ST | <p>Unsafe passing as a result of insufficient passing lanes. Providing signs for the next passing lane could reduce unsafe passing.</p> |
| A3 | Install cameras around rest area (~MP 70) and Daniels Lodge (~MP 35). | 1, 2 | 48 | MT | <p>Cameras that provide regular updates on the UDOT Web site can provide information for travelers about road conditions, which can affect their decisions about routes to take, as well as whether to postpone a trip. This can improve safety.</p> |


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| ID | Improvement Project | Segment ^a | Rank | Timeline ^b | Project Need/Information |
|---|---------------------|----------------------|------|-----------------------|--------------------------|
| <p>Acronyms and abbreviations used in this table:</p> <ul style="list-style-type: none"> • 4(f): Section 4(f) of the U.S. Department of Transportation Act of 1966, which directs agencies to evaluate any potential effects of federal actions to publicly owned parks, recreation areas, wildlife or waterfowl refuges, and historic sites. • 6(f): Section 6(f) of the Land and Water Conservation Act, which regulates the conversion of property acquired or developed using Land and Water Conservation Act grant money. • FEMA: Federal Emergency Management Agency • FHWA: Federal Highway Administration • LOS: level of service. A qualitative measure that describes the operational conditions of a traffic stream based on measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Level of service is rated from A to F, with LOS A being the best (free-flowing traffic) and LOS F being the worst ("gridlock"). • MP: milepost • SR: state route • STIP: State Transportation Improvement Program • UDOT: Utah Department of Transportation <p>^a Segments:</p> <ul style="list-style-type: none"> 1 = Beginning of project to Daniels Summit (MP 21.4 to MP 34.3) 2 = Daniels Summit to western limit of Duchesne (MP 34.3 to MP 85.86) 3 = Duchesne incorporated area (MP 85.86 to MP 87.53) 4 = Duchesne eastern limit to Roosevelt western limit (MP 87.53 to MP 111.48) 5 = Roosevelt and Ballard incorporated areas (MP 111.48 to MP 118.5) 6 = Ballard eastern limit to Vernal western limit (MP 118.5 to MP 141.48) 7 = Vernal and Naples incorporated areas (MP 141.48 to MP 148.54) 8 = Naples eastern limit to project end in Jensen (MP 148.54 to MP 157) <p>^b Timeline:</p> <ul style="list-style-type: none"> ST = short term (0 to 5 years) MT = mid-term (5 to 15 years) LT = long term (more than 15 years) | | | | | |

**Table 5.2-2. Recommended Planning Documents for the US 40 Study Corridor**

| Ranking | Plan/Study Description |
|---------|---|
| 1 | <p>School Bus Pullout/Access Safety Plan – Work with school districts in Wasatch, Duchesne, and Uintah Counties to establish plans for locating and constructing school bus pullouts to increase safety.</p> <p>Work with school districts regarding improving safety for students who cross US 40 to access schools. School districts noted that, with increases in population, more students are crossing US 40 to access schools, and improvements to crossing locations should be developed.</p> |
| 2 | <p>Hazardous Materials Emergency Response Plan – Work with the Utah Highway Patrol and other emergency-response agencies to develop response protocols for hazardous materials spills along roads managed by UDOT in the study area.</p> |
| 3 | <p>Access Management, Future Routing Options, and Land-Use Policy Plans with the Cities of Vernal, Naples, Roosevelt, Ballard, and Duchesne – Analyze the interconnectedness of land use, access, and roadway capacity. The planning process will also create a local forum for discussing traffic management and routing options for vehicles by type and for the road itself.</p> <p>Review unsignalized intersections for the suitability of traffic signals within the urban limits of Roosevelt, Duchesne, Vernal, and Naples (signal warrants). Examples of signal warrants identified by the communities include 1500 South and 1900 South in Naples near industrial center and schools. Heavy traffic results in long waits to enter US 40.</p> |
| 4 | <p>Wildlife Crossing Plan – Cooperative planning study with other interested agencies focusing on the incidence of wildlife strikes throughout the corridor and potential improvements that can limit the frequency and number of strikes.</p> |
| 5 | <p>Truck Route Plans – UDOT will work with the Cities of Vernal, Naples, Roosevelt, Ballard, and Duchesne to identify appropriate routing for large commercial vehicles through the communities (for example, a truck route to avoid the use of SR 191 and US 40 in Vernal).</p> |
| 6 | <p>Drainage Plans for US 40 – In partnership with local agencies, participate in community planning currently taking place along the corridor to address appropriate drainage of stormwater off US 40.</p> |
| 7 | <p>Speed Limit Study – Review established speed limits corridor-wide. This is especially important on the outskirts of communities, which might need consideration for modified speed limits as the communities grow.</p> |
| 8 | <p>Intelligent Transportation System (ITS) Architecture Plan – Consider and determine appropriate deployment of ITS technology for the US 40 corridor.</p> |
| 9 | <p>Forest Service Coordination Plan – USFS noted several issues that need additional coordination with UDOT. These issues include maintenance of restrooms near Strawberry Reservoir (posting “Restrooms Closed” signs could work), open range in Daniels Canyon and the need for fencing, potential to add pullouts for recreation as part of construction projects, and early coordination of upcoming projects to identify potential access needs.</p> <p>In addition, USFS noted access issues with the Whiskey Springs picnic site, a day-use area that consists of a small picnic area with less than 10 tables and a trailhead. The Whiskey Springs entrance/exit is on a curve with poor sight distance. The entrance includes a box culvert over a small stream, and there is a very steep hill on the north side of US 40. The eastbound approach has two lanes (uphill passing lane) but no right-turn lane, and the westbound approach is a single lane with no left-turn lane, which forces traffic to stop in the travel lane (this is dangerous given the downhill speeds). Entering the picnic area requires slowing down below 5 mph on US 40 because of the limited access. A possible solution is to have a separate, new entrance south of the current entrance with right- and left-turn lanes and to use the existing entrance as an exit only. Because of the stream and hill, it would be difficult to add right- and left-turn lanes on US 40 at the existing entrance.</p> |

5.2.1 Project Prioritization

Each project identified above in Table 5.2-1, Recommended Construction Projects for the US 40 Study Corridor, is ranked (the projects are listed in rank order). The process by which the rankings were developed was both objective and subjective, but ultimately represents the priority for needs along the corridor. The following sections explain the process that was used to prioritize projects.

5.2.1.1 Criteria

Criteria are the values against which each project is judged. The criteria used to rank the projects reflected UDOT's goals for the US 40 corridor. As described in Section 1.4.2, Goals and Objectives, these goals focus on safety, capacity and congestion, design and operation, growth and development, environmental considerations, use of the highway by the oil and gas industry, and economic development, tourism, and recreation. Each project in the list was scored by several reviewers against the objectives of each goal.

5.2.1.2 Ranking Process

Initial Scoring

The ranking process involved members of the project team, UDOT, project stakeholders, and resource agencies. The project team provided the first review and assigned a numeric ranking for each criterion depending on how well each project satisfied the criterion. Four reviewers each used a scale of 0 to 3, where 0 meant that the criterion was essentially ignored by the project or did not apply, and 3 meant that the project satisfied the criterion. Scores for each of the seven criteria were then added for each project, by reviewer. An example is provided below.

| <u>Project A</u> | <u>Score</u> |
|---|--------------|
| Safety | 3 |
| Capacity and congestion | 1 |
| Design and operation | 2 |
| Growth and development | 2 |
| Environmental | 0 |
| Oil and gas | 1 |
| Economic development/tourism/recreation | 1 |
| Total Score | 10 |

This process was the first step in ranking the projects.



Weighted Ranking

Once each reviewer ranked all of the projects, the scores for each reviewer were then added for each project to see how the projects initially ranked when compared to each other. An example is provided below.

| | <u>Project A</u> | <u>Project B</u> | <u>Project C</u> | <u>Project D</u> |
|--------------|------------------|------------------|------------------|------------------|
| Reviewer 1 | 10 | 8 | 11 | 10 |
| Reviewer 2 | 13 | 9 | 12 | 10 |
| Reviewer 3 | 8 | 11 | 11 | 6 |
| Total | 31 | 28 | 34 | 26 |

Based on the total scores shown in the example above, the projects would then be ranked as follows:

- Rank 1: Project C
- Rank 2: Project A
- Rank 3: Project B
- Rank 4: Project D

The next step was to average the scores. For some projects, the scores assigned by the four reviewers varied widely. This variation seemed to unnecessarily pull some important projects down in the ranks while elevating some that were less critical. A weighted median was then calculated to compensate for a high or low score in any given ranking. This allowed measurement of the average variance between the individual scores and allowed compensation for individual scores that were distorting the project listing. Once the weighted median was calculated, the projects were then sorted, first based on the weighted median, and then by their total score to complete the first iteration of project ranking.

5.2.1.3 Further Refinements

Once the first full iteration of the project rankings was completed, the project team separated the projects that were planning-related (such as developing truck routing plans) from the more traditional construction projects. The rankings of those items included on the plans list (see Table 5.2-2 above, Recommended Planning Documents for the US 40 Study Corridor) were based on how the plans ranked when they were part of the larger list. For example, the plan that was assigned rank 1 was the highest-ranking planning document in the overall project list.

The remaining project list then became a construction project list. The team reviewed this list and made some minor adjustments. For example, multiple treatments were recommended for some intersections, with some treatments more intensive and inclusive than others. An example is the intersection of US 40 and SR 88 west of Vernal, for which two separate projects were identified. The ultimate treatment recommended for this intersection is a full-service interchange, but in the interim, the list included a project to add acceleration and deceleration lanes. Since the interim improvements are intended to occur before the interchange is constructed, the interim improvements should have higher priority based on project timing. For this intersection, the interchange construction ranked higher than the intersection improvements, but logic dictates that the intersection improvements should be constructed before the interchange is built. Therefore, for intersections where there is an interchange project, the intersection improvements were moved up in the rankings to occur before interchange construction.

Once the project team made its adjustments, UDOT representatives reviewed the prioritized plans list and the prioritized construction project list. UDOT approved the priorities as presented and suggested the addition of a planning document. The lists were then reviewed by stakeholders and agencies. Stakeholders suggested some additional projects that were then ranked and incorporated into the lists. These new projects were ranked using the same methodology that was used for the original list. Finally, the lists were presented to the public at the final round of open houses along the corridor. Two additional projects were added to the construction project list as a result of public input; these projects were scored and ranked according to the same methodology. The final lists are shown above in Table 5.2-1, Recommended Construction Projects for the US 40 Study Corridor, and Table 5.2-2, Recommended Planning Documents for the US 40 Study Corridor.

5.3 City Plans

In 2004 and 2005, UDOT worked cooperatively with the Cities of Duchesne, Roosevelt, Ballard, Vernal, and Naples to develop community transportation plans. During that planning process, the Cities formulated lists of local improvement projects and identified priorities. Because such intensive planning for roads in and near these cities had already been completed at the local level, the US 40 Corridor Study did not include a new in-depth analysis of the roadway needs of these communities. Table 5.3-1 below summarizes the projects included in these community plans.

**Table 5.3-1. Community Transportation Plan Recommendations^a**

| Project in Community Plan | Status |
|--|---|
| <i>Duchesne</i> | |
| High Priority: Regional drainage study. | Drainage improvements included as item V2 on the US 40 construction project list. Also, the plan list includes drainage studies for all communities (see Table 5.2-2, Plan 6). |
| High Priority: Signal warrant study for intersection of US 40 and SR 87. | Improvements to this intersection included as item E1 on the US 40 construction project list. |
| High Priority: Speed study for each entrance to city on US 40. | US 40 plan list includes speed limit study (see Table 5.2-2, Plan 7). |
| High Priority: Construct turn lane on US 40 at east end of town for businesses adjacent to Strawberry River. | Not included on the US 40 construction project list. |
| Construct sidewalks to schools along US 40 under the Safe Routes to School program. | Not included on the US 40 construction project list. |
| Install sign informing westbound traffic of Starvation Reservoir entrance. | Not included on the US 40 construction project list. |
| Install signs at entrances to city on US 40 informing trucks of noise ordinance (engine brakes prohibited). | Not included on the US 40 construction project list. |
| <i>Roosevelt^b</i> | |
| Replace irrigation culvert on Dry Gulch on US 40 from 400 East to 600 East. | Drainage improvements included as item V2 on the US 40 construction project list. Also, the plan list includes drainage studies for all communities (see Table 5.2-2, Plan 6). |
| Signalize US 40/SR 121 intersection. | Improvements to intersection included as item J1 on the US 40 construction project list. |
| Cottonwood Creek Bridge on US 40: widen from two to four lanes and add pedestrian access (sidewalk). | Improvements to L&L corner and this area included as item J1 on the US 40 construction project list. Notes recognize that bridge also needs to be widened. |
| <i>Ballard</i> | |
| High Priority: Widen US 40 to five lanes from Ballard to Fort Duchesne. | Widening to four through lanes from Roosevelt to Vernal included as item D1 on the US 40 construction project list. Item G1 recommends construction of a center turn lane east of Ballard to about MP 116.6, which, if combined with item D1, could provide five lanes for part of the distance. (Fort Duchesne is at about MP 122.) |
| High Priority: Improve radius and truck acceleration lanes at intersection of US 40 and 3500 East; secondary priority to improve intersection lighting. | Specific location not included on the US 40 construction project list. |
| Add curb, gutter, and sidewalk on US 40 from Ballard to Bottle Hollow. | Not included on the US 40 construction project list. |
| Study speeds and merge associated with westbound passing lanes on US 40 near Todd Elementary School. | General speed limit study included as Plan 7 on the plan list, but this specific location is not identified in the construction project list. |
| Intersection of US 40 and 1500 East: improve intersection for truck access and complete signal warrant study. | The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). Intersection improvement was not included on the US 40 construction project list. |
| Intersection of US 40 and 2500 East: improve radius and truck acceleration lanes; improve intersection lighting. | Specific location not included on the US 40 construction project list. |
| Local roads that intersect US 40: convert open ditches to piped flow or install guardrail adjacent to open ditches. | Drainage improvements included as item V2 on the US 40 construction project list. Also, the plan list includes drainage studies for all communities (Plan 6). |

Table 5.3-1. Community Transportation Plan Recommendations^a

| Project in Community Plan | Status |
|--|---|
| <i>Vernal</i> | |
| High Priority: Improve intersection of US 40 and 1000 South (west side; signal warrant study/new signal). | The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). |
| High Priority: Improve intersection of US 40 and 100 South (signal warrant study/new signal). | Signal is in place. |
| High Priority: Improve intersection of US 40 and 500 East (signal warrant study/new signal). | Signal is in place. |
| High Priority: Improve intersection of US 40 and 500 South (east side; signal warrant study/new signal). | The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). |
| Widen US 40 to four lanes from MP 140 to MP 142. | Included as part of items A1 and D1 on the US 40 construction project list. |
| Conduct drainage study for US 40. | Drainage improvements included as item V2 on the US 40 construction project list. Also, the plan list includes drainage studies for all communities (Plan 6). |
| Add lighting at view area on US 40 (safety). | Not included on the US 40 construction project list. |
| Intersection of US 40 and Main Street (both east [~900 East] and west [~800 West] sides): signal warrant study/new signal. | The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). |
| Intersection of US 40 and 600 West: signal warrant study/new signal. | The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). |
| Conduct safety study for intersection of US 40 and US 191 focused on truck turns. | Safety study not included on the US 40 construction project list. However, improvements to this intersection (to address turn radius issues) are included as item F1 on the US 40 construction project list. |
| <i>Naples</i> | |
| High Priority: Widen US 40 from Roosevelt to Vernal. | Included as item D1 on the US 40 construction project list. |
| High Priority: Realign intersection of US 40 and SR 45; secondary priority to complete signal warrant study/install signal. | Included as item M1 on the US 40 construction project list. |
| High Priority: Improve intersection of US 40 and 1500 South; complete signal warrant study/install signal. | The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). |
| High Priority: Improve intersection of US 40 and 500 South; complete signal warrant study/install signal. | The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). |
| High Priority: Conduct signal warrant studies for US 40 and 500 South and US 40 and 1500 South. | The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). |
| Improve intersection of US 40 and 1000 South. | The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). |
| Improve intersection of US 40 and 2500 South; complete signal warrant study/install signal. | Improvements to intersection were included as item I1 on the US 40 construction project list. The plan list includes signal warrant studies (see Table 5.2-2, Plan 3). |
| Construct pedestrian overpass (over US 40) at about 2500 South. | Not included on the US 40 construction project list. |
| Add sidewalks along both sides of US 40. | Not included on the US 40 construction project list. |
| Conduct speed study on US 40. | The plan list includes speed limit study (see Table 5.2-2, Plan 8). |

^a From Duchesne City Community Transportation Plan (2005), Roosevelt City Transportation Master Plan (2005), Ballard Town Community Transportation Plan (2005), Vernal City Transportation Master Plan (2004), and Naples Transportation Plan (2006).

^b Roosevelt's plan did not identify high-priority projects.



5.4 Policy Recommendations

This report includes policy recommendations for four subject areas: corridor-management agreements, corridor management related to future land uses along the corridor, notification procedures for physical impacts to the corridor, and roadway standards.

5.4.1 Corridor-Management Agreements

UDOT recognizes that corridor management is a primary policy concern along US 40. In general, the project team recommends that UDOT enter into some type of corridor-management agreement with each city and county along the study corridor. In support of this recommendation, the project team researched various types of agreements between agencies; several examples are provided in Appendix F, Example Agreements.

Corridor planning is an appropriate time to start investigating the establishment of detailed agreements between UDOT and the local agencies that are responsible for implementing land use in the study corridor. There is a close relationship between transportation and land uses, because all land use depends to some extent on access to a road to bring people to and from the use. In an ideal situation, local roads lead to neighborhoods and driveways in residential areas and higher-volume roads service commercial areas, which allows greater numbers of vehicles access to products and services.

All roads have access points, whether these are individual driveways, local road intersections, or fully controlled interchanges. Problems can arise when the function of a road is out of balance with the demands on it. If a highway corridor designed for moving traffic runs through the heart of a community and has many businesses and roads that access the corridor, then through-traffic movements will be impeded. However, businesses need to access higher-volume roads to bring in more customers, which ensures the businesses' long-term viability. Access and traffic movement can conflict when communities grow without establishing options for business other than a highway or a main street. If business districts and highways share a route, as US 40 does through Duchesne, Roosevelt, Ballard, Vernal, and Naples, then the function of the road for either purpose is diminished.

This access-management discussion is based largely on information in the National Cooperative Highway Research Program Synthesis Report 337, *Cooperative Agreements for Corridor Management* (TRB 2004). The report details the different types of cooperative agreements that can be used for the

US 40 corridor management. The examples provided in Appendix F are taken from that report.

A growing number of transportation agencies are engaging in corridor management and related projects to preserve the safety and mobility of major thoroughfares. Corridor management involves the application of strategies for access management, land-use and subdivision management, right-of-way needs and preservation, operational strategies, intergovernmental coordination, and financing of corridor improvements. Many of these strategies will be accomplished by implementing the US 40 Corridor Study recommendations. However, the more detailed work of establishing access-management agreements, adopting corridor-management policies, following through with land-use coordination, and establishing urban routing will continue in the future.

This US 40 Corridor Study introduces the concept of access-management agreements and discusses how agreements with local jurisdictions that are responsible for land-use decisions along the corridor might be developed. Reviewing the sample agreements in Appendix F will help UDOT understand the different options for developing access-management agreements.

The corridor planning process can be used to craft local agreements concerning access management along the US 40 corridor. The results of coordination with the public, stakeholders, and local agencies along the US 40 corridor suggest that an open, collaborative process favored by all parties will help implement effective agreements and/or policies. By using a consensus-based approach, UDOT and the local agencies will craft agreements that are mutually acceptable and have the support necessary to implement the intent of the agreement.

5.4.1.1 Types of Agreements

Several types of agreements can be used for corridor management and preservation. UDOT has previously used corridor-management agreements, such as the previously mentioned agreement with Wasatch County, for management of SR 248. An agreement can take the form of a resolution, memorandum of understanding (MOU), intergovernmental agreement (IGA), or public-private agreement.

A **resolution** expresses the intent or will of a political body about a given policy at a particular time. Resolutions are not legally binding and are subject to change or contradiction by the political body. Resolutions are often used to adopt new plans or policies. A resolution in support of corridor management and of adopting the US 40 corridor plan could be a starting point for a corridor-management agreement.



An **MOU** goes beyond a resolution and documents the desire of the parties involved to engage in a particular course of action, such as corridor management. An MOU can serve as an intermediate step toward more extensive cooperation.

An **IGA** is a legal pact authorized by state law between two or more units of government to contract for or agree on the performance of a specific activity. IGAs work best when responsibilities, financial obligations, and procedures are detailed. These are the most binding types of agreements and are therefore the most effective in accomplishing an agreed-on goal.

Public-private agreements are binding contracts between a government entity and a private entity. These types of agreements typically concern the boundary between a public road and a privately owned property. Public-private agreements often involve mitigation measures that a developer must implement as part of a project, a description of specific access conditions, future roadway improvements, and/or multi-party funding arrangements for long-term management of a road. One example in Appendix F concerns a private entity and UDOT, so this type of agreement and approach to corridor management are not a new concept to UDOT.

IGAs are the most desirable type of agreement because they have the enforcement mechanism built into the agreement, and they are essentially a contract that binds both parties to carry out the agreement. The structure of these agreements requires certain provisions to facilitate enforcement and updates as conditions around the corridor change.

5.4.1.2 Characteristics of Successful Agreements

By reviewing the characteristics of successful agreements, UDOT can avoid many of the pitfalls that characterize failed agreements between local agencies and public departments of transportation throughout the United States. However, simply incorporating these characteristics into any type of agreement will not ensure success.

The purposes of most cooperative agreements are to:

- Establish a common understanding about the importance of an arterial to regional mobility.
- Establish a mutual commitment to managing the corridor.
- Specify roles and responsibilities.

Other purposes include establishing mutually acceptable standards for corridor management, obtaining local or developer contributions toward highway

improvements, improving state and local coordination in access permitting and land use, and promoting the uniform maintenance of highways. Regardless of the type of arrangement used, there are some characteristics of successful agreements that should be part of the development process, including:

- Willingness of the various parties to work out and agree on a management strategy
- Opportunities for periodic review and adaptive management of the agreement
- A process to ensure that the agreement is followed

Participants. First, agreements should be put together with input by all affected parties. For longer corridors, this might include business and property owners, affected cities and counties, tribal representatives, state police, and resource agencies. More than any other characteristic of successful agreements, collaboration is required. In and of itself, collaboration is not a guarantee of success, but the likelihood of success without it is remote.

Although the US 40 corridor planning process engaged many of the agencies and stakeholders that would participate in the agreement development process, it has stopped short of the type of collaboration and cooperative work needed to develop an agreement that will achieve the management goals for the corridor. However, the results of the US 40 Corridor Study provide a basis from which to develop further management agreements with agencies that have jurisdiction over land use in the corridor.

Term of Agreement. Second, periodic review of the agreement should be built into the agreement language. If an agreement has no predetermined time for review and updating, it is less likely to be followed over time. As the agreement becomes dated, it becomes obsolete. Typical durations of management agreements are 10 to 20 years, with reviews and modifications as necessary at least every 5 years. In areas that are growing quickly, a review interval of every 3 years might be more appropriate. Review intervals of 3 to 5 years will provide enough time for application of the agreement as it stands and for obvious problems or issues to arise. This will also allow the implementing parties an opportunity to review the implementation history and to draw conclusions about the agreement's effectiveness over time.

Agreement Process. Finally, it is important that the agreement be supported by a process that requires applicants for access managed under the agreement to receive approvals from the implementing parties (usually the transportation and land-use agencies). This approval process will help ensure that the management



agreement is followed, help identify where agreement provisions need clarification, and promote orderly growth and development along the corridor.

5.4.1.3 Example Agreements

Appendix F includes the following example agreements:

- **Resolution** from Benton County, Minnesota: *Accepting, Supporting, and Adopting the TH10/TH24 Inter-regional Corridor Management Plan* (2002)
- **Corridor preservation agreement** between UDOT and Wasatch County; addresses preserving traffic flow in the SR 248 corridor in the Jordanelle Planning Area through implementation of an access-management stationing plan
- **IGA** between the Colorado Department of Transportation and several cities and counties for access control on public highways within their respective jurisdictions
- **MOU** between Manitoba Transportation and Government Services and the Rural Municipality of Headingley: *PTH1W Proposed Highway Upgrading and Access Management Plan*
- **Public-private agreement** between UDOT and the owners of Ossine Shoes and Gifts; addresses consolidation of access to SR 68 in Salt Lake County
- Example **access cooperative agreement** for the US 40 study corridor; assumes participation of UDOT, the counties, and the cities

The access cooperative agreement example for the US 40 corridor could be used by UDOT as a starting point for addressing access management along the corridor.

5.4.2 Local Land-Use Planning

In addition to the types and location of accesses to and from a highway, congestion and access-management issues that might arise are also directly related to the land use that abuts the corridor. Much of the land along US 40 is undeveloped. Therefore, long-term management of the corridor must consider how future development planned through the counties and cities would affect the highway. Ideally, UDOT would be involved in development planning and would have the opportunity to comment on and see the results of project-specific traffic impact analyses. Such planning is particularly important where a proposed

development might not abut the highway but might use an existing road that provides direct access to the highway. Without the need to have direct access approved by UDOT, development plans in such off-highway areas can overwhelm a highway access point that is intended to handle only a few vehicles per day.

5.4.2.1 Existing Policies and Procedures

In general, even though UDOT does not have formal agreements regarding development review and access with the cities and counties along the US 40 corridor, the agencies do work together when development might physically affect a state highway (through encroachment on or changing access to the highway) or result in traffic rates that could affect highway operation.

For example, in Wasatch County, typical development proposals along state-managed, limited-access highways involve properties that were historically used for agriculture. As part of its review, Wasatch County coordinates with the landowner and UDOT to identify and/or clarify access points from the property to the highway. The County also reviews the need for traffic studies on a case-by-case basis. Traffic studies for projects adjacent to state highways are normally forwarded to UDOT for review (James 2007).

The Uintah County General Plan (Uintah County 2005) contains policies that drive the County's coordination with UDOT. These policies call for including UDOT in the development of the County's master transportation plan (which takes into account both county and city land-use planning) and road maintenance program. Aside from these policies, the County does not have any formal agreements with UDOT regarding the review of development applications. Uintah County requires traffic studies for all standard and major subdivisions and for planned unit developments whether they are residential, nonresidential, or a combination of both. If a project abuts a state highway, UDOT is consulted based on the development proposal and the results of the traffic study. The County consults with UDOT on off-highway projects that use existing local roads to access the highway on a case-by-case basis.

In 2004 and 2005, representatives of the Cities of Duchesne, Roosevelt, Ballard, Vernal, and Naples coordinated with UDOT to develop community transportation plans. Development of the community plans also involved discussion on how UDOT and each of the cities can work together to ensure that community transportation planning meets the needs of local residents while ensuring smooth operation of state highways.



5.4.2.2 Recommendation

Partnering with local jurisdictions that have control over land use and zoning can have a very positive effect on the management and function of the highway. By partnering with local agencies, UDOT can ensure that new projects adjacent to US 40, or that use existing roads for access to US 40, are appropriately planned to address the safety and operational needs of the highway as well as the development plans of the cities and counties.

5.4.3 Notification

Ideally, UDOT planners would receive notification from each land-use jurisdiction about any development or regulatory change within its region and would have standing to make comments and place requirements on developments for mitigating impacts. This includes off-highway projects that would use local roads to access state highways.

In addition to forming formal relationships with cities and counties to identify access standards, UDOT could work with the cities and counties to establish notification procedures. These procedures could explain when UDOT should be notified of new development, explain who should receive the notification, and provide a timeframe for UDOT's review and comment. To ensure that this process functions efficiently, UDOT might consider focusing this function in the Region 3 office, as it is important to have local knowledge of the roadway conditions and development pressures.

5.4.4 Road Standards

UDOT ensures that the roads it manages are constructed and maintained according to UDOT's adopted standards. In many cases, the geometry or alignment of a section of road does not meet the current standard because the road was built long before a standard was established, or because a standard has been modified but the road has not been modified to bring it up to standard.

As it implements projects on the construction project list, UDOT will ensure that all improvements meet the design standards outlined in the most recently approved standards and specifications. This includes ensuring that intersections have sufficient radii for truck turning movements and that cross-sections through urbanized areas are sufficient to accommodate larger vehicles. For example, many intersections along the US 40 corridor need a turning radius of at least 50 feet to accommodate truck turning movements, but currently have radii of 20 feet or less. When this occurs, trucks are unable to stay in the proper lane, which can affect operation and safety of the highway. As projects are constructed, UDOT will pay special attention to this and might require more stringent design standards to accommodate truck traffic. Accommodating truck traffic will enable the entire system to function more efficiently and safely.

Appendix G, Typical Cross-Sections for the US 40 Corridor, contains the recommended typical cross-sections for the US 40 corridor. Recommended cross-sections for the US 40 corridor are consistent with the needs and operation of this mostly rural corridor.

5.5 Summary

By engaging in discussion and ultimately entering into formal management agreements with cities and counties along the US 40 study corridor, UDOT can stay informed about local and regional development plans and have an agreed-on way to participate in local decisions that might affect the operation of US 40. Cities and counties would also benefit by having clear guidelines on how to evaluate potential traffic-related effects on state highways and how to address potential traffic impacts. By working together, UDOT and the cities and counties along the US 40 corridor can ensure the safe and efficient operation of US 40 in the coming years. Careful implementation of roadway standards will also ensure that the future operation of US 40 meets the needs of all travelers.